

WHAT IS CLAIMED IS:

1. A method suitable for an image forming system which comprises a plurality of devices including at least one of an image forming device which can print
5 data in a storage unit that can store data of a plurality of jobs including data of a first job and data of a second job which is input after the data of the first job, and a sheet processing device which can execute a sheet process for a sheet printed by the
10 image forming device, comprising:
 - a scheduling control step suited to set a schedule associated with a plurality of work flows including a first work flow that includes a plurality of process steps using a plurality of devices of the
15 image forming system required to complete the first job, and a second work flow that includes a plurality of process steps using a plurality of devices of the image forming system required to complete the second job; and
 - an instruction step suited to selectively input a
20 plurality of instructions including first and second instructions,
- wherein the scheduling control step includes a step of setting, when the first instruction is input, a first schedule which is scheduled to complete the
25 second work flow for the second job input after the first job, after completion of the first work flow for the first job, and a step of setting, when the second

instruction is input, a second schedule which is scheduled to complete the second work flow for the second job input after the first job, before completion of the first work flow for the first job.

- 5 2. The method according to claim 1, wherein the instruction step includes a step of inputting a third instruction, and

the scheduling control step includes a step of setting, when the third instruction is input, a third
10 schedule which is scheduled to execute a work flow in consideration of cost upon processing a job in the image forming system.

3. The method according to claim 1, wherein the instruction step includes a step of inputting a fourth
15 instruction, and

the scheduling control step includes a step of setting, when the fourth instruction is input, a fourth
20 schedule which is scheduled to execute a work flow in consideration of quality upon processing a job in the image forming system.

4. The method according to claim 1, further comprising a device control step suited to control, when the first schedule is set, the plurality of devices of the image forming system to complete the
25 second work flow for the second job input after the first job, after completion of the first work flow for the first job, and to control, when the second schedule

is set, the plurality of devices of the image forming system to complete the second work flow for the second job input after the first job, before completion of the first work flow for the first job.

5 5. The method according to claim 4, wherein the device control step includes a step of controlling, when the third schedule is set, the plurality of devices of the image forming system to execute a work flow in consideration of cost upon processing a job in
10 the image forming system.

6. The method according to claim 4, wherein the device control step includes a step of controlling, when the fourth schedule is set, the plurality of devices of the image forming system to execute a work
15 flow in consideration of quality upon processing a job in the image forming system.

7. The method according to claim 1, further comprising a memory control step of storing the schedule information set in the scheduling control step
20 in a memory.

8. The method according to claim 1, further comprising an informing control step of controlling a user interface unit to execute an informing process of schedule information associated with a scheduling
25 result set in the scheduling control step, and

 wherein the informing control step includes a step of controlling the user interface unit to inform

different kinds of schedule information depending on whether the first or second instruction is input.

9. The method according to claim 8, wherein the informing control step includes steps of:

5 controlling, when the first instruction is input, the user interface unit to execute an informing process of first schedule information that allows a user to identify that it is scheduled to complete the second work flow for the second job input after the first job, 10 after completion of the first work flow for the first job; and

 controlling, when the second instruction is input, the user interface unit to execute an informing process of second schedule information that allows a user to 15 identify that it is scheduled to complete the second work flow for the second job input after the first job, before completion of the first work flow for the first job.

10. The method according to claim 8, wherein the 20 informing control step includes a step of controlling, when the third instruction is input, the user interface unit to execute an informing process of third schedule information that allows a user to identify that it is scheduled to execute a work flow in consideration of 25 cost upon processing a job in the image forming system.

11. The method according to claim 8, wherein the informing control step includes a step of controlling,

when the fourth instruction is input, the user interface unit to execute an informing process of fourth schedule information that allows a user to identify that it is scheduled to execute a work flow in consideration of quality upon processing a job in the image forming system.

12. The method according to claim 1, wherein the image forming system has at least one of a device which can execute a job order process, a device which can execute a job edit process, a device which can execute a job proof process, and a device which can execute a job archiving process, and also the image forming device and the sheet processing device, and

the scheduling control step includes a step of setting a schedule suited to execute a work flow having a plurality of process steps including a print process step using the image forming device and a sheet process step using the sheet processing device.

13. The method according to claim 1, wherein the scheduling control step includes a step of setting a schedule suited to execute a work flow including a plurality of process steps using the plurality of devices, and an operator intervention work.

14. The method according to claim 13, further comprising an informing control step of controlling a user interface unit to inform schedule information

associated with a scheduling result set in the
scheduling control step, and

wherein the informing control step includes a
step of controlling the user interface unit to inform
5 first type schedule information that allows a user to
confirm an execution order of the plurality of process
steps using the plurality of devices required to
execute the work flow, and controlling the user
interface to inform second type schedule information
10 that allows the user to confirm an operator
intervention work required to execute the work flow.

15. The method according to claim 14, wherein the
informing control step includes a step of controlling
the user interface unit to inform the first type
15 schedule information and then the second type schedule
information.

16. The method according to claim 14, wherein the
informing control step includes a step of controlling
the user interface unit to inform the second type
20 schedule information and then the first type schedule
information.

17. The method according to claim 14, further
comprising an informing mode selection step of
selecting one of a first schedule informing mode of
25 informing the first type schedule information, and a
second schedule informing mode of informing the second
type schedule information, and

wherein the informing control step includes a step of controlling the user interface unit to operate in the informing mode selected in the informing mode selection step.

5 18. The method according to claim 14, wherein the informing control step includes a step of controlling the user interface unit to prompt to input authentication data when the user interface unit informs the second type schedule information of the
10 first type schedule information and the second type schedule information.

19. The method according to claim 14, wherein the informing control step includes a step of controlling the user interface unit to identifiably inform the
15 first type schedule information for respective jobs when the user interface unit informs the first type schedule information of the first type schedule information and the second type schedule information.

20. The method according to claim 14, wherein the
20 informing control step includes a step of identifiably informing the second type schedule information for respective users when the user interface unit informs the second type schedule information of the first type schedule information and the second type schedule
25 information.

21. The method according to claim 1, wherein the image forming device comprises an interrupt print

function which interrupts a print job, a print process of which is in progress, and can execute a print process of another print job, and

said method further comprises a device control
5 step of inhibiting execution of the interrupt print function, when the first schedule is set in the scheduling control step and when the image forming system is not ready to complete the second work flow for the second job input after the first job, after
10 completion of the first work flow for the first job.

22. The method according to claim 1, wherein the image forming device comprises an interrupt print function which interrupts a print job, a print process of which is in progress, and can execute a print
15 process of another print job, and

said method further comprises a device control step of permitting execution of the interrupt print function, when the first schedule is set in the scheduling control step and when the image forming
20 system is ready to complete the second work flow for the second job input after the first job, after completion of the first work flow for the first job.

23. The method according to claim 1, wherein the image forming device comprises an overtake print
25 function which can execute a print process of the second print job prior to the first print job upon

completion of another print job, a print process of which is in progress, and

said method further comprises a device control step of inhibiting execution of the overtake print function, when the first schedule is set in the scheduling control step and when the image forming system is not ready to complete the second work flow for the second job input after the first job, after completion of the first work flow for the first job.

24. The method according to claim 1, wherein the image forming device comprises an overtake print which can execute a print process of the second print job prior to the first print job upon completion of another print job, a print process of which is in progress, and

said method further comprises a device control step of permitting execution of the overtake print function, when the first schedule is set in the scheduling control step and when the image forming system is ready to complete the second work flow for the second job input after the first job, after completion of the first work flow for the first job.

25. The method according to claim 1, wherein the image forming device comprises an expanded application function including any of a facsimile transmission function, a network scanner function, and a preview function, and

said method further comprises a device control
step of inhibiting execution of the expanded
application function, when the first schedule is set in
the scheduling control step and when the image forming
5 system is not ready to complete the second work flow
for the second job input after the first job, after
completion of the first work flow for the first job.

26. The method according to claim 1, wherein the
image forming device comprises an expanded application
10 function including any of a facsimile transmission
function, a network scanner function, and a preview
function, and

said method further comprises a device control
step of permitting execution of the expanded
15 application function, when the first schedule is set in
the scheduling control step and when the image forming
system is ready to complete the second work flow for
the second job input after the first job, after
completion of the first work flow for the first job.

20 27. The method according to claim 1, wherein the
image forming device comprises an interrupt print
function which interrupts a print job, a print process
of which is in progress, and can execute a print
process of another print job, and

25 said method further comprises a device control
step of inhibiting execution of the interrupt print
function, when the second schedule is set in the

scheduling control step and when a state of the image forming system is a third state in which the image forming system is ready to complete the second work flow for the second job input after the first job, before completion of the first work flow for the first job.

28. The method according to claim 1, wherein the image forming device comprises an interrupt print function which interrupts a print job, a print process of which is in progress, and can execute a print process of another print job, and

said method further comprises a device control step of permitting execution of the interrupt print function, when the second schedule is set in the scheduling control step and when the image forming system is not ready to complete the second work flow for the second job input after the first job, before completion of the first work flow for the first job.

29. The method according to claim 1, wherein the image forming device comprises an overtake print which can execute a print process of the second print job prior to the first print job upon completion of another print job, a print process of which is in progress, and

said method further comprises a device control step of permitting execution of the overtake print function, when the second schedule is set in the scheduling control step and when the image forming

system is ready to complete the second work flow for the second job input after the first job, before completion of the first work flow for the first job.

30. The method according to claim 1, wherein the
5 image forming device comprises an overtake print which can execute a print process of the second print job prior to the first print job upon completion of another print job, a print process of which is in progress, and
said method further comprises a device control
10 step of inhibiting execution of the overtake print function, when the second schedule is set in the scheduling control step and when the image forming system is not ready to complete the second work flow for the second job input after the first job, before
15 completion of the first work flow for the first job.

31. The method according to claim 1, wherein the image forming device comprises an expanded application function including any of a facsimile transmission function, a network scanner function, and a preview
20 function, and

said method further comprises a device control step of permitting execution of the expanded application function, when the second schedule is set in the scheduling control step and when the image
25 forming system is ready to complete the second work flow for the second job input after the first job,

before completion of the first work flow for the first job.

32. The method according to claim 1, wherein the image forming device comprises an expanded application
5 function including any of a facsimile transmission function, a network scanner function, and a preview function, and

said method further comprises a device control step of inhibiting execution of the expanded
10 application function, when the second schedule is set in the scheduling control step and when the image forming system is not ready to complete the second work flow for the second job input after the first job, before completion of the first work flow for the first
15 job.

33. The method according to claim 1, wherein the scheduling control step includes a step of setting a schedule suited to execute a work flow including a plurality of process steps using the plurality of
20 devices, and a plurality of intervention works by an operator, and

said method further comprises an informing control step of controlling a user interface unit to inform information that allows the operator to confirm
25 an intervention work to be done immediately after an intervention work executed by the operator of the

plurality of intervention works required to execute the work flow.

34. The method according to claim 33, wherein the informing control step includes a step of controlling a portable terminal which can be carried by the operator to inform the information.

35. The method according to claim 1, wherein the scheduling control step includes a step of scheduling work flows of a plurality of jobs which include any of a job of data output from a computer, a job of data output from a scanner, a job of data output from a digital camera, and a job of data output from a storage medium.

36. The method according to claim 1, wherein the scheduling control step includes a step of setting a schedule of work flows using data suitable for a JDF (Job Definition Format) format.

37. An image forming system which comprises a plurality of devices including at least one of an image forming device which can print data in a storage unit that can store data of a plurality of jobs including data of a first job and data of a second job which is input after the data of the first job, and a sheet processing device which can execute a sheet process for a sheet printed by the image forming device, comprising:

scheduling control means suited to set a schedule associated with a plurality of work flows including a first work flow that includes a plurality of process steps using a plurality of devices of said image

5 forming system required to complete the first job, and a second work flow that includes a plurality of process steps using a plurality of devices of said image forming system required to complete the second job; and

instruction means suited to selectively input a
10 plurality of instructions including first and second instructions,

wherein said scheduling control means can set a first schedule which is scheduled to complete the second work flow for the second job input after the
15 first job, after completion of the first work flow for the first job, when the first instruction is input, and can set a second schedule which is scheduled to complete the second work flow for the second job input after the first job, before completion of the first
20 work flow for the first job, when the second instruction is input.

38. A program for making an image forming system, which comprises a plurality of devices including at least one of an image forming device which can print
25 data in a storage unit that can store data of a plurality of jobs including data of a first job and data of a second job which is input after the data of

the first job, and a sheet processing device which can execute a sheet process for a sheet printed by the image forming device, execute:

a scheduling control sequence suited to set a
5 schedule associated with a plurality of work flows
including a first work flow that includes a plurality
of process steps using a plurality of devices of said
image forming system required to complete the first job,
and a second work flow that includes a plurality of
10 process steps using a plurality of devices of said
image forming system required to complete the second
job; and

an instruction sequence suited to selectively
input a plurality of instructions including first and
15 second instructions,

wherein the scheduling control sequence can set a
first schedule which is scheduled to complete the
second work flow for the second job input after the
first job, after completion of the first work flow for
20 the first job, when the first instruction is input, and
can set a second schedule which is scheduled to
complete the second work flow for the second job input
after the first job, before completion of the first
work flow for the first job, when the second
25 instruction is input.

39. A storage medium storing a program of claim 38.

40. An image forming system comprising:

job acceptance means for accepting a print job
and a print instruction;

a plurality of step control means for
respectively controlling a plurality of steps for the
5 print job;

scheduling means for scheduling the steps; and
process control means for managing the steps on
the basis of a scheduling result of said scheduling
means.

10 41. An image forming system comprising:

job acceptance means for accepting a print job
and a print instruction;

pre-print process control means for controlling a
pre-print process step that applies a pre-print process
15 to the print job accepted by said job acceptance means
in accordance with the print instruction;

print process control means for controlling a
print process step that applies a print process to the
print job that has undergone the pre-print process;

20 post-print process control means for controlling
a post-print process step that applies a post-print
process to the print job that has undergone the print
process;

scheduling means for scheduling the steps; and
25 process control means for managing a schedule of
the steps on the basis of a scheduling result of said
scheduling means.

42. An image forming system comprising:

job acceptance means for accepting a print job
and a print instruction;

edit process control means for controlling an
5 edit process step that applies an edit process to the
print job accepted by said job acceptance means in
accordance with the print instruction;

proof process control means for controlling a
proof process step that applies a proof process to the
10 print job that has undergone the edit process;

print process control means for controlling a
print process step that applies a print process to the
print job that has undergone the proof process;

finishing process control means for controlling a
15 finishing process step that applies a finishing process
to the print job that has undergone the print process;

delivery process control means for controlling a
delivery process step that applies a delivery process
to the print job that has undergone the finishing
20 process;

scheduling means for scheduling the steps; and

process control means for managing a schedule of
the steps on the basis of a scheduling result of said
scheduling means.

25 43. An image forming system comprising:

job acceptance means for accepting a print job
and a print instruction;

image scanning means for scanning image data from a paper document;

edit process control means for controlling an edit process step that applies an edit process to the print job accepted by said job acceptance means or a
5 print job based on the image data scanned by said image scanning means in accordance with the print instruction;

proof process control means for controlling a
10 proof process step that applies a proof process to the print job that has undergone the edit process;

print process control means for controlling a print process step that applies a print process to the print job that has undergone the proof process;

15 finishing process control means for controlling a finishing process step that applies a finishing process to the print job that has undergone the print process;

delivery process control means for controlling a delivery process step that applies a delivery process
20 to the print job that has undergone the finishing process;

scheduling means for scheduling the steps; and

process control means for managing a schedule of the steps on the basis of a scheduling result of said
25 scheduling means.

44. The system according to claim 40, further comprising display means for displaying the schedule of

the steps managed by said process control means, and times required for the steps.

45. The system according to claim 40, further comprising selection means for selecting one or a
5 plurality of modes from a plurality of scheduling modes, and

said scheduling means schedules the steps on the basis of the one or plurality of scheduling modes selected by said selection means.

10 46. The system according to claim 40, wherein said scheduling means schedules the steps on the basis of an acceptance order of print jobs by said job acceptance means.

47. The system according to claim 40, wherein said
15 scheduling means schedules the steps while giving priority to a delivery date of the print job.

48. The system according to claim 40, wherein said scheduling means schedules the steps while giving priority to cost of the print job.

20 49. The system according to claim 40, wherein said scheduling means schedules the steps while giving priority to quality of the print job.

50. The system according to claim 40, wherein said scheduling means schedules the steps while giving
25 priority to optimization or operating efficiency of said image forming system.

51. The system according to claim 45, wherein the plurality of scheduling modes include a print job acceptance order priority mode, print job priority mode, print job cost priority mode, print job time schedule
5 priority mode, image forming system optimization priority mode, and image forming system operating efficiency priority mode.

52. The system according to claim 45, wherein said selection means can re-select even after scheduling by
10 said scheduling means.

53. The system according to claim 40, wherein said scheduling means checks a schedule or schedules of one or a plurality of already scheduled jobs upon scheduling a print job accepted by said job acceptance
15 means, and re-schedules the steps of the accepted job and the one or plurality of already scheduled jobs when the schedule or schedules of the one or plurality of already scheduled jobs can be changed.

54. The system according to claim 40, wherein said
20 job acceptance means accepts the print job and print instruction via a service using a Web browser via the Internet.

55. A method of controlling an image forming system, comprising:

25 a job acceptance step of accepting a print job and a print instruction;

a plurality of step control steps of respectively
controlling a plurality of steps for the print job;

a scheduling step of scheduling the steps; and

a process control step of managing the steps on
5 the basis of a scheduling result in the scheduling step.

56. A program for implementing a method of
controlling an image forming system of claim 55.

57. A storage medium computer-readably storing a
program for implementing a method of controlling an
10 image forming system of claim 55.

58. An image forming system which can execute an
image forming process including a plurality of steps,
comprising:

process control means for managing the plurality
15 of steps and issuing work instructions to workers who
execute works.

59. The system according to claim 58, further
comprising display means for displaying the work
instructions from said process control means.

20 60. The system according to claim 58, further
comprising worker identification means for identifying
the workers who execute works, and

wherein said process control means issues the
work instructions to the workers identified by said
25 worker identification means.

61. The system according to claim 58, further comprising scheduling means for scheduling the works of the workers who execute works for respective steps, and

wherein said process control means issues the
5 work instructions to the workers who execute works on the basis of a scheduling result of said scheduling means.

62. The system according to claim 60, further comprising scheduling means for scheduling the works of
10 the workers identified by said worker identification means for respective steps.

63. The system according to claim 58, further comprising job acceptance means for accepting a print job and a print instruction, and

15 wherein the plurality of steps include a pre-print process step that applies a pre-print process to the print job accepted by said job acceptance means in accordance with the print instruction, a print process step that applies a print process to the print
20 job that has undergone the pre-print process, and a post-print process step that applies a post-print process to the print job that has undergone the print process.

64. The system according to claim 58, further
25 comprising job acceptance means for accepting a print job and a print instruction, and

wherein the plurality of steps include an edit process step that applies an edit process to the print job accepted by said job acceptance means in accordance with the print instruction, a proof process step that
5 applies a proof process to the print job that has undergone the edit process, a print process step that applies a print process to the print job that has undergone the proof process, a finishing process step that applies a finishing process to the print job that
10 has undergone the print process, and a delivery process step that applies a delivery process to the print job that has undergone the finishing process.

65. The system according to claim 58, further comprising:

15 job acceptance means for accepting a print job and a print instruction; and

image scanning means for scanning image data from a paper document, and

wherein the plurality of steps include an edit
20 process step that applies an edit process to the print job accepted by said job acceptance means or a print job based on the image data scanned by said image scanning means in accordance with the print instruction, a proof process step that applies a proof process to
25 the print job that has undergone the edit process, a print process step that applies a print process to the print job that has undergone the proof process, a

finishing process step that applies a finishing process to the print job that has undergone the print process, and a delivery process step that applies a delivery process to the print job that has undergone the
5 finishing process.

66. The system according to claim 60, wherein said worker identification means comprises an ID card which stores information including a worker's name, identification number, department name, skill, and work
10 history.

67. The system according to claim 59, wherein said display means comprises a display unit of a device used by each worker in each step.

68. The system according to claim 67, wherein the
15 display unit of a device used by each worker in each step includes a display unit of a computer, a display unit of a printing device, and a display unit attached to a cart or the like.

69. The system according to claim 59, wherein said
20 display unit comprises a display unit of a portable terminal which can be carried by each worker.

70. The system according to claim 59, wherein the portable terminal can wirelessly receive the work instruction from said process control means.

25 71. The system according to claim 69, further comprising worker identification means for identifying the workers who execute works, and

wherein the portable terminal acquires
identification information from said worker
identification means and wirelessly informs said
process control means of the acquired identification
5 information.

72. The system according to claim 58, further
comprising a plurality of step control means for
respectively controlling the plurality of steps, and
wherein said step control means and said process
10 control means communicate with each other using a JDF
(Job Definition Format) format.

73. A method of controlling an image forming system
which can execute an image forming process including a
plurality of steps, comprising:

15 a process control step of managing the plurality
of steps and issuing work instructions to workers who
execute works.

74. A program for implementing a method of
controlling an image forming system of claim 73.

20 75. A storage medium computer-readably storing a
program for implementing a method of controlling an
image forming system of claim 73.